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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,827	06/25/2003	Atsuo Tsunoda	204552028500	9486

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EXAMINER
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JACKSON, CORNELIUS H

ART UNIT	PAPER NUMBER
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2828

DATE MAILED: 03/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H. A

**Office Action Summary****Application No.**

10/602,827

**Applicant(s)**

TSUNODA, ATSUO

**Examiner**

Cornelius H. Jackson

**Art Unit**

2828

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 June 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/25/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the step must be shown/referenced or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

2. Claim 1 is objected to because of the following informalities: Claim 1 cites, "a step of *no* smaller than 0.13 mm", this size of 0.13 mm appear to be too larger for the laser device and a misprint, since the specification teaches a step no smaller than 0.13  $\mu\text{m}$ , **see page 13, lines 13-14. See also page 14, lines 14-23. Correction is also need on page 5, line 18.**

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 5 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Ikeda et al. (5956361). Regarding claim 1, Ikeda et al. disclose a semiconductor laser device **Figs. 1 and 7B**, which is provided with an active layer **104** and a first clad layer **103** on a substrate **101** and provided with a ridge section **113** constructed of a second clad layer **107** and upper layers **108** including a cap layer **108** on the first clad layer **103**, the upper layer **108** protruding in both widthwise directions beyond the second clad

layer **107**, providing a step no smaller than  $0.13\ \mu\text{m}$  **col. 10, lines 62-67** between the upper layers **108** and the second clad layer **107**.

Regarding claim 2, Ikeda et al. disclose wherein a current constriction layer **109,110,111** provided on both sides of the ridge section **113**, and a portion **110** the current constriction layer **109,110,111**, the portion **110** being located outside portion **109** brought in contact with ridge section **113** and having surfaces formed flatly, is formed to have a thickness smaller than a thickness of the second clad layer **107** of the ridge section **113**, **see Figs. 1 and 7B**.

Regarding claim 3, Ikeda et al. disclose wherein a portion **109** of the current constriction layer **109,110,111** brought in contact with the ridge section **113** has a thickness no smaller than half a thickness of the second clad layer **107** of the ridge section **113**, **see Figs. 1 and 7B**.

Regarding claim 5, Ikeda et al. disclose a semiconductor laser device manufacturing method comprising the steps of: forming at least an active layer **104**, a first clad layer **103**, a second clad layer **107** and upper layers **108** including a cap layer **108** on a substrate **101**; and forming a ridge section **113** comprised of the second clad layer **107** and the upper layers **108** to dry etching **col. 15, lines 41-50** and subsequently to wet etching **col. 9, lines 1-2**.

Regarding claim 6, Ikeda et al. disclose a step is formed between the upper layers **108** protrude in both widthwise directions beyond the second clad layer **107** by wet etching, **col. 9, lines 1-12**.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al. (5956361). Ikeda et al., as applied above to claim 1, teach all the stated limitations except the substrate being inclined. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the substrate inclined, since it is known in the art for obtaining a desired bond or atomic orientation between the crystal lattice structure of the layers grown on the substrate in order to achieve stronger bonds between layers and/or a better cleavage facet surface and/or specific wavelength output.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cornelius H. Jackson whose telephone number is (571)272-1942. The examiner can normally be reached on 8:00 - 5:00, Monday - Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MinSun Harvey can be reached on (571)272-1835. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CHJ  
chj

MIN SUN CHANG  
PRIMARY EXAMINER